



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200  
Fax 613 632-5246

D5815-5

Job Sheet 207574

POSITIVE  
RECALL

Part No: D5815-5

Job Qty: 24 pcs

Part Name: Stud



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 2/27/20

Job Tracking No:

Due Date: 4/27/20

Created By: Jennifer Renwick

Type: Stock

Description:

Note: URF 20-522 DWG 5815 REV.A IPP REV:A NEW ISSUE 20.01.16 JV VERF:DD

Ship Via:

## Bill of Materials

## Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard Setup Hrs	Run Hrs	Workcenter/Supplier	Lead Time	Sign-off
100	Hardinge - 1	24 pcs	4/27/20	4/27/20	0.50	1.60	Hardinge - 1	SL-154-1	CB 20-03-27
110	QC 2	24 pcs	4/27/20	4/27/20	0.00	0.00	QC 2 - 1		
							QC 2 - 12		
							QC 2 - 14		
							QC 2 - 17		
							QC 2 - 19		
							QC 2 - 2		
							QC 2 - 20		
							QC 2 - 22		
							QC 2 - 23		
							QC 2 - 25		
							QC 2 - 32		
							QC 2 - 33		
							QC 2 - 35		
							QC 2 - 39		
							QC 2 - 4		
							QC 2 - 40		
							QC 2 - 44		
							QC 2 - 45		
							QC 2 - 48		
							QC 2 - 49		
							QC 2 - 50		
							QC 2 - 51		
							QC 2 - 52		
							QC 2 - 57		
							QC 2 - 62		CB 20-03-27
							QC 2 - 63		
							QC 2 - 8		
							QC 2 - 66		
							QC 2 - 64		
							QC 2 - 65		



Container No: S267218



Part: D5815-5

Job No: 207574

Serial No/Batch: S267218

Revision: REV.A

Inspector:

Exp Date:

Instructions:

1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
CANADA  
TEL.: 1 813 632-5200  
Email: sales@dartaero.com  
www.dartaero.com

Date: 03/27/20

DAS  
62  
9-89DAS  
62  
9-89

120 QC 8	24 pcs	4/27/20	0.00 0.00	QC 2 - 5	
				QC 2 - 71	
				QC 2 - 73	
				QC 2 - 69	
				QC 2 - 76	
				QC 8 - 12	
				QC 8 - 14	
				QC 8 - 17	
				QC 8 - 20	
				QC 8 - 25	
				QC 8 - 3	
				QC 8 - 32	
				QC 8 - 33	
				QC 8 - 35	
				QC 8 - 39	
				QC 8 - 4	
				QC 8 - 44	
				QC 8 - 45	
				QC 8 - 49	
				QC 8 - 58	
				QC 8 - 8	
				QC 8 - 9	
				QC 8 - 68	
				QC 8 - 67	
				QC 8 - 1 (A)	
				QC 8 - 47	
				QC 8 - 40	
				QC 8 - 52	
				QC 8 - 23	
				QC 8 - 57	
				QC 8 - 76	
				QC 8 - 61	
100 Packaging 3-1 - Stock - B4B	24 pcs	4/27/20	0.00 0.00	Packaging 3 - 1 - B4B	
				Packaging 3 - 2 - B4B	
				Packaging 3 - 3 - B4B	
				Packaging 3 - 4 - B4B	
				Packaging 3 - 5 - B4B	
				Packaging 3 - 6 - B4B	
				Packaging 3 - 7 - B4B	
				Packaging 3 - 8 - B4B	
				Packaging 3 - 9 - B4B	
				Packaging 3 - 10 - B4B	
				Packaging 3 - 11 - B4B	
				Packaging 3 - 12 - B4B	
				Packaging 3 - 13 - B4B	
				Packaging 3 - 14 - B4B	
				Packaging 3 - 15 - B4B	
				Packaging 3 - 16 - B4B	
				Packaging 3 - 17 - B4B	
				Packaging 3 - 18 - B4B	
				Packaging 3 - 19 - B4B	
				Packaging 3 - 20 - B4B	
				Packaging 3 - 21 - B4B	
				Packaging 3 - 22 - B4B	
				Packaging 3 - 23 - B4B	
				Packaging 3 - 24 - B4B	
				Packaging 3 - 25 - B4B	
				Packaging 3 - 26 - B4B	
				Packaging 3 - 27 - B4B	

DAS  
52  
9-89 10/03/28

				Packaging 3 - 28 - B4B	
				Packaging 3 - 29 - B4B	
				Packaging 3 - 30 - B4B	
				Packaging 3 - 31 - B4B	
				Packaging 3 - 32 - B4B	
				Packaging 3 - 33 - B4B	
				Packaging 3 - 34 - B4B	
				Packaging 3 - 35 - B4B	
				Packaging 3 - 36 - B4B	
				Packaging 3 - 37 - B4B	
140 QC 21 - SA	24 pcs	4/27/20	0.00 0.00	QC 21 - SA - 21	140
				QC 21 - SA - 70	31
				QC 21 - SA - 53	1-10

Part Op **100** - 1-Machine as per folio F D219 FOLIO REV: AA DWG REV: A 2-Debur

Descriptions: **110** - QC2- Inspect parts off machine FAI/FAIR  
**120** - QC6- Inspect parts - second check  
**130** - Identify as per dwg & Stock Location: \_\_\_\_\_  
**140** - QC21- Final Inspection - Work Order Release

**MAR 30 2020**

**Job BOM**

Part / Item	Component Name	Quantity	Operation	Container
M1018R0.625	M1018R0.625	5,7792 ft (.2408 ea)	100-Hardinge - 1 <u>SLIM</u>	<u>5265821</u>

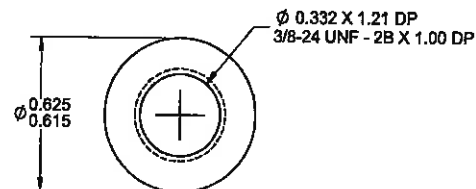
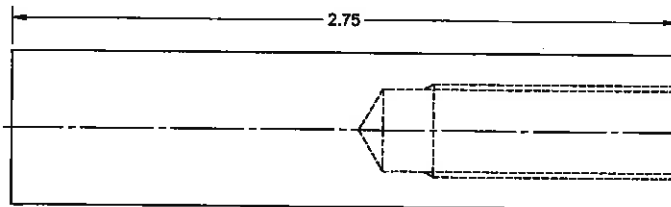
**Job Allocations**

Operation	Component Part	Required	Inventory	Allocated
100-Hardinge - 1 <u>SLIM</u>	M1018R0.625	6	0	0

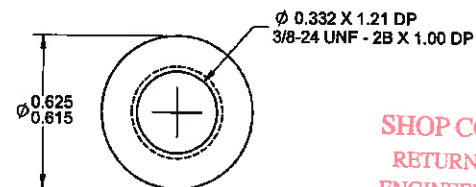
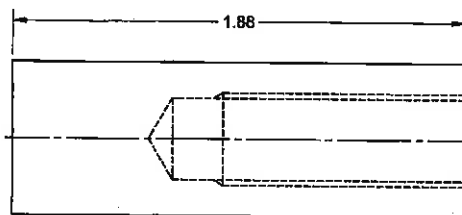
**Part Specifications**

Specifications could not be found.

Plex 3/12/20 8:07 AM Dart.lajeunesse.marie



**D5815-5 STUD**  
(DERIVED FROM AERO DESIGN P/N 94023-05)



**D5815-7 STUD**  
(DERIVED FROM AERO DESIGN P/N 94023-07)

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 207574 MCT  
2008-12

UNDER REVIEW

URF 2020-522 20.02.14 (NO)

**NOTES:**

- 1) MATERIAL: AISI 1018/1025 STEEL ROUND BAR  
PER MIL-S-7097 OR ASTM A108  
REF DART SPEC M1018-R
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: -5: 0.21 lbs  
-7: 0.13 lbs

**RELEASED**  
2020 FEB 18 NO

APPROVED

DESIGN  
DRAWN  
CHECKED  
MFG. APPR.  
APPROVED  
DE APPR.  
DATE

ZF  
ZF  
KPT  
DD  
NO  
CP

DRAWING NO.  
**D5815**  
TITLE

**BASKET HOOPS**

**DART AEROSPACE LTD**  
HAWKESBURY, ONTARIO, CANADA

REV. A  
SHEET 4 OF 5  
SCALE  
NTS

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NOT TO BE USED FOR ANY PURPOSES UNRELATED TO THE BUSINESS OF DART AEROSPACE LTD.

**DART AEROSPACE LTD**

**Work Order:**

207574

**Description:** BASKET HOOPS - STUD

Part Number:

**D5815-5**

**Inspection Dwg: D5815**

**Rev: A**

Page 1 of 1

## INSPECTION SHEET

[illegible]

**DAS**  
**62**  
**9-89**

DAS  
52

Measured by: JB

9-89

**Checked by:**

52

### QC Inspector:

Date: 20-02-27

Date: 20/03/28

Date:

**Engineering Approval:**  
(If necessary)

**Date:**

Rev	Date	Change	Revised by	Approved
A	27-Mar-20	New Issue	MG	



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER POHB046115



**Supplier:** ACI001-VC  
Acier Ouellette Inc.  
935 Boul. Du Havre  
Valleyfield  
QC  
J6S 5L1 Canada  
Phone: 800 667 4248  
Fax: 450 377 5696

**Attention:** Langevin, Melanie

**Ship To:** 1270 Aberdeen Street  
Hawkesbury  
ON  
K6A 1K7 Canada  
Phone: 613-632-5200

**PO No:** POHB046115

**PO Date:** 3/18/20

**Due Date:** 3/24/20

**Purchase Order**

**Revision:**

**Revision Date:**

**Issued By:** Lavole, Chantal  
Phone: 613-623-5200 Ext: 242  
Fax: 613-632-1053  
clavoie@dartaero.com

E-MAILED  
MAR 18 2020

**Via:** Ground

**Pymt Terms:** Net 60

**Freight Terms:**

**Special Comments:** QUOTATION NO. SOU246887

## Items

Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
1		M1018R0.250			M1018R0.250 : MATERIAL: AISI 1018-1025 ROUND BAR AS PER mil-s-7097 or astm a108	Firmed	-	3/24/20	12 ft	0 ft	12 ft	\$0.2608/ft	\$3.13
2		M1018R0.625			M1018R0.625 : MATERIAL: AISI1018-1025 ROUND BAR SPECIFICATION: MIL-S-7097 OR ASTM A108	Firmed	-	3/24/20	20 ft	0 ft	20 ft	\$1.206/ft	\$24.12
3		M1018R2.00			receive ft M1018R2.00 : MATERIAL: AISI 1018-1025 ROUND BAR M1010S20GA AS PER MIL-S-7097 OR ASTM A108 receive ft	Firmed	-	3/24/20	20 ft	0 ft	20 ft	\$10.2475/ft	\$204.95
4		M2024T3S.125			2024-T3 .125 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed	-	3/24/20	48 sf	0 sf	48 sf	\$26.7825/sf	\$1,285.56



Dart Aerospace Ltd.  
1270 Aberdeen St  
Hawkesbury, ON  
K6A 1K7  
Canada

Tel (613) 632-5200

# PURCHASE ORDER POHB046115



Items													
Line Item	Job	Part	Drawing	Supplier Part No	Description	Status	Account	Due Date	Order Quantity	Received Quantity	Balance	Unit Price (CAD)	Extended Price
5		M2024T3S.063			2024-T3 .063 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed -		3/24/20	96 sf	0 sf	96 sf	\$12.580208/sf	\$1,207.70
6		M2024T3S.080			2024-T3 .080 Sheet : MATERIAL: 2024-T3 ALUMINUM SHEET AS PER QQ-A-250/4 OR AMS-QQ-A-250/4 OR AMS 4037 OR ASTM B209 receive sf	Firmed -		3/24/20	96 sf	0 sf	96 sf	\$15.249687/sf	\$1,463.97
7		MT-A513-T-1.000W0.120	MT-A513-T		A513 Seamless Alloy Steel Round Tubing 1"dia. x 0.120" Wall : MATERIAL:ASTM A513 TYPE 5 (1020/1026) SEAMLESS ALLOY STEEL ROUND TUBING (DOM) ASTM A513 TYPE 5	Firmed -		3/24/20	40 ft	0 ft	40 ft	\$2.25/ft	\$90.00
8		M303R0.750			303 Round Bar 0.750 : MATERIAL: AISI 303 SS ROUND BAR AS PER ASTM A582 NOTE:304/316 NOT ACCEPTABLE receive ft	Firmed -		3/24/20	36 ft	0 ft	36 ft	\$4.7455/ft	\$170.84
Grand Total:												\$4,450.27	

**ACIER OUELLETTE INC.**

935, Boul. du Havre  
Salaberry de Valleyfield (Québec) J6S 5L1  
Tél.: 450-377-4248 Mtl: 514-336-4248 Ext.: 800-667-4248  
Fax: 450-377-5696 Mtl: 514-336-4246 Ext.: 866-456-4242

**DELIVERY CLIENT**

C000197354

<b>Billed to</b> DART AEROSPACE LTD  1270 , ABERDEEN ST. HAWKESBURY, Ontario, K6A 1K7	<b>Shipped to</b>  1270 , ABERDEEN ST. HAWKESBURY, Ontario, K6A 1K7  Att : CHANTAL LAVOIE Tél.: 613-632-5200 <b>Delivery Route</b> 5	<b>Customer N°</b> <b>Date</b> <b>Delivery date</b> <b>Your order N°</b> <b>Processed by</b> <b>Salesman</b> <b>Carrier</b> <b>Credit Terms</b>	CLI0001056 2020/03/18 <b>2020/03/23</b> POHB046115 Stephanie Dignard JOSIANNE BOURDON OUELLETTE VALLEYFIELD Net 30 Days
<b>Instruction</b> F-M			


Product Description	Weight	Qty	UM	PCS N3			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
1 ROUND CR 1/4 1018 (R) RCR-14 5277 1 X 12' R/L PO# POHB046115 LINE 1 HEAT : 44246GM	2.00	12.00	PI_\$CLB		1/12/1"						
2 ROUND CR 5/8 1018 (R) RCR-58 5351 1 X 20' R/L PO# POHB046115 LINE 2 HEAT : 43937G	20.80	20.00	PI_\$CLB		1/12/19"						
3 ROUND CR 2 1018 (R) RCR-2 5319 1 X 20' R/L PO# POHB046115 LINE 3 HEAT : 44830IS	213.60	20.00	PI_\$CLB		1/20'13"						
4 ALU SHEET 1/8 2024-T3 RANDOM FEAL-182024-V 8603 1 X 4' X 12' PO# POHB046115 LINE 4 HEAT : 348473B0 CAST : 219 AC35085-SA-2020/03/19	84.58	48.00	PI2_\$CLB		1/4/12'						
5 ALU SHEET .064 (14G) 2024-T3 (4 X 12) DART FEALD-0644122024 12474 2 X 4' X 12' PO# POHB046115 LINE 5 LOT : 323583B5 CAST : 894	86.50	96.00	PI2_\$CLB		2/4'12'						



Product Description	Qty	Weight	UN	PCS NB			Internal Use Only				
				CMD	EXP	B/O	IN	I	S	C	OUT
PACKAGING		1.00	UN								
6 TUBE MEC 1.000 OD X .120 (R) TME-1000120 6505 504 2 X 20' R/L PO# POHB046115 LINE 7 HEAT : A125662 01/19G-0132	45.12	40.00	PL_\$CPI		1x20' 1x20'						
7 ROUND SS 303 3/4 (R) RSS-34303 5761 1200 3 X 12' R/L PO# POHB046115 LINE 8 HEAT : 461574	54.07	36.00	PL_\$CLB		3x14'						
<b>Note : ATTENTION: MILL TEST REQUIS</b> Chaque item identifier avec : - Le # PO client - Le # d'item - Le heat # - Emballer les pièces dans carton											
<b>Conditions :</b> All sold and delivered materials remain the property of "Acier Ouellette Inc" until payment is made in full, complete and cashed. All lost materials are at the buyer's expense. The warranty offered by "Acier Ouellette Inc." is the same as offered and honored by the manufacturer and his warranty is transferred by "Acier Ouellette Inc." to the client. The buyer hereby accepts to respect the following conditions: Net 30 days from billing date and the buyer accepts to pay administration charges of 2% per month (24% per annum) on all past due amounts over 30 days. Any default in respect with this contract will lead to payment by acceleration and permits to the seller, at his choice to claim for the balance due or the repossession of the goods sold. All claims must be made within five (5) days with this document enclosed. Any merchandise that has been damaged, cut or modified cannot be returned. All goods returned must be with our authorization and are subject to a 25% restocking charge.				<b>Total Weight (Lbs) :</b> 506.67		<b>NIR : R-109516-6</b>					

Prepared By :

Verified By :

Delivered By :  


Time

Customer's Signature

Y M D

20 09 23

Date

L1WE2

# MATERIAL RECEIPT INSPECTION FORM

MATERIAL: M101812 0.625

PO / BATCH NO.: POM3046115  
5265821

DATE: MAR 26 2020

MATERIAL CERT REC'D: YES  
QUANTITY RECEIVED: 19 FT  
QUANTITY INSPECTED: 19 FT  
QUANTITY REJECTED:                     

THICKNESS ORDERED: 0.625  
THICKNESS RECEIVED: 0.625  
SHEET SIZE ORDERED:                       
SHEET SIZE RECEIVED:                     

DESCRIPTION	NCR (Check Y/N)	COMMENTS
SURFACE DAMAGE	Y (N)	
CORRECT FINISH	(Y) N	
CORROSION	Y (N)	
CORRECT GRAIN DIRECTION	(Y) N	
CORRECT MATERIAL PER M-DRAWING	(Y) N	<u>ASTM A-108</u>
CORRECT THICKNESS	(Y) N	
PHOTO REQUIRED	Y (N)	
CORRECT REF # TO LINK CERT	(Y) N	<u>HIT 43737-6</u>
CORRECT MATERIAL IDENTIFICATION	(Y) N	
CORRECT M# ON THE MATERIAL	(Y) N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y (N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y (N)	

CUT SAMPLE PIECE OF MATERIAL AND PREFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
	HRC	HRB	DUR A	DUR D	WEBSTER
TYPE OF MATERIAL					
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

*testers located in the Quality Office*

QC 18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>                    </u>	SIGNED OFF BY: <u>                    </u>		
DATE: <u>MAR 26 2020</u>	DATE: <u>                    </u>		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

M1018 R.O. B25

# **SPECIFICATION CONTROL DRAWING**

PURCHASE MATERIAL: AISI 1018-1025 ROUND BAR

SPECIFICATION: MIL-S-7097 OR ASTM A108

PART NUMBER: M1018-R.D.DDD WHERE D.DDD = DIAMETER IN INCHES  
DIA.

EG. 7/8" ROUND BAR = M1018-R0.875

TOLERANCES: PER ASTM A108 AS FOLLOWS:

SIZE	TOLERANCE
UP TO 1.5" INCL.	+0.000/-0.002
OVER 1.5" TO 2.5" INCL.	+0.000/-0.003
OVER 2.5" TO 4.0" INCL.	+0.000/-0.004
OVER 4.0" TO 6.0" INCL.	+0.000/-0.005
OVER 6.0" TO 8.0" INCL.	+0.000/-0.006

DAS  
82  
7-88

RELEASED  
2012-09-24

B	REFORMAT, ADD ASTM A108, ADD TOLERANCES	CP	12.08.05
A	NEW ISSUE	DS	01.08.12
REV.	DESCRIPTION	BY	DATE
DESIGN	DS	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	CP		
CHECKED	DS	DRAWING NO.	REV. B
MFG. APPR.	DS	M1018-R	SHEET 1 OF 1
APPROVED	DS	TITLE	SCALE
DE APPR.	DS	1018-1025 ROUND BAR	NTS
DATE	12.09.05	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND CONFIDENTIAL. IT IS SUPPLIED ON THE UNDERSTANDING THAT IT IS NOT TO BE RELEASED FOR ANY OTHER PURPOSES WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.	

5351

RCR-58

TRIA-5936

③

55273

②



ARANA Y LÓPEZ, 2  
28900 UGA DE LEÓN (VIZCAYA) (SPAIN)  
Tél: 94 500211  
Fax: 94 500128  
Email: calibrados@calibrados.es  
www.calibrados.es

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / According to:

EN 10028-2:1999

3.1

Nº CERTIFICADO / CERTIFICATE NO.: 54954

ALBARRAN 54954  
Delivery Note No.

CANTIDAD: 185 LITROS TRANSFER (1997) LITER  
CUSTOMER

Norma: EN 10027

Productos Calibrados de acero. Condiciones técnicas de suministro.

Norm:

Bright steel products. Technical delivery conditions.

PRODUCTO SOLICITADO / PRODUCT ACCORDING TO: 5.31 AC 2212

PRODUCTO	ESPECIFICACIÓN	VALOR	VALOR	VALOR	VALOR
MN-50185	1018 RED. ESTIRADO 15.88 (31.7)	995	-0.051	145417	15.08
OU-51737	1018 RED. ESTIRADO 22.23 (70.7)	990	-0.051	145495	22.23
OU-51048	1018 RED. ESTIRADO 15.88 (31.7)	992	-0.051	145631	15.88
SM-51850	1018 RED. ESTIRADO 31.75 (114)	996	-0.051	145696	31.75
SM-51850	1018 RED. ESTIRADO 15.88 (31.7)	990	-0.051	145696	15.88
PAR-51569	1018 RED. ESTIRADO 11.11 (70.8)	972	-0.051	145729	11.11
OU-51927	1018 RED. ESTIRADO 23.81 (150.6)	1.002	-0.051	145864	23.81
OUV-51928	1018 RED. ESTIRADO 31.75 (114)	1.008	-0.051	145866	31.75
AQM-51941	1018 RED. ESTIRADO 25.40 (114)	1.070	-0.051	145882	25.40
AQM-51941	1018 RED. ESTIRADO 31.75 (114)	998	-0.051	145883	31.75
OL-51961	1018 RED. ESTIRADO 12.70 (114)	1.014	-0.051	145947	12.70
OU-51961	1018 RED. ESTIRADO 31.75 (114)	994	-0.051	145945	31.75
SM-52018	1018 RED. ESTIRADO 28.58 (114)	1.176	-0.051	146109	28.58
SM-52018	1018 RED. ESTIRADO 31.75 (114)	994	-0.051	146110	31.75
PAR-52037	1018 RED. ESTIRADO 31.75 (114)	3.986	-0.051	146133	31.75
PAJ-52038	1018 RED. ESTIRADO 30.16 (310)	1.022	-0.051	146147	30.16
PAJ-52038	1018 RED. ESTIRADO 31.75 (114)	2.042	-0.051	146148	31.75

Composición química de la aleación / Chemical Analysis of Steel

MEZCLA	OF	COLADA	% C	% Mn	% P	% S	% Si
15.88	0.00	145417	0.163	0.645	0.010	0.012	0.151
22.23	0.00	145495	0.170	0.670	0.011	0.012	0.153
15.88	0.00	145681	0.160	0.645	0.010	0.012	0.151
31.75	0.00	145696	0.163	0.780	0.014	0.022	0.206
15.88	0.00	145696	0.160	0.645	0.010	0.012	0.151
11.11	0.00	145729	0.150	0.710	0.009	0.022	0.138
23.81	0.00	145864	0.168	0.780	0.014	0.022	0.206
31.75	0.00	145866	0.163	0.780	0.014	0.022	0.206
25.40	0.00	145882	0.160	0.645	0.010	0.012	0.151
31.75	0.00	145883	0.163	0.780	0.014	0.022	0.206
12.70	0.00	145947	0.160	0.645	0.007	0.016	0.143
31.75	0.00	145945	0.166	0.780	0.013	0.022	0.206
28.58	0.00	146109	0.160	0.670	0.014	0.019	0.161
31.75	0.00	146110	0.163	0.780	0.014	0.022	0.206
31.75	0.00	146133	0.168	0.780	0.014	0.022	0.206
30.16	0.00	146147	0.168	0.797	0.007	0.022	0.193
31.75	0.00	146148	0.168	0.780	0.014	0.022	0.206

Características mecánicas / Mechanical properties

4: 43937G

ARANAY LUPAREQ 2  
44-3860-ARAYA GERVILDA (SPAIN)  
Ind. 2-80211  
Fam. 2-680122  
Empl. 2-680122  
Empl. 2-680122  
Empl. 2-680122

## CERTIFICADO DE CALIDAD/QUALITY REPORT

Enter into a mode according to:

ENCLOSURE

3

DECLASSIFIED / CERTIFICATE NR.: 54950

ALBANY 54954  
Delivery Note No.

CLIENT LES ACIERS TRNSEEC (1997) L'ABB

NO. 11-10277

**Produtos Galvanizados de Aço. Caudalões e Cordeiros de Fomecimento.**

**Norm :**

Bright steel products. Technical delivery conditions.

MEDIA	CT	COLETA	Tens. straight	Field point	Elongation	Hardness	Striction %
Measurement		Cart.Nr.	N/mm <sup>2</sup>	0.2% N/mm <sup>2</sup>	Lo=20mm	HB	
13,88	145417	43937 G	669,77	646,97	16,78	200,00	53,53
22,23	145493	43415 G	641,80	602,43	23,96	176,00	53,20
15,38	145601	43937 G	669,77	646,97	16,78	200,00	53,53
31,75	145698	43329 AG	563,00	530,00	33,83	176,00	58,15
15,00	145696	43937 G	669,77	646,97	16,78	200,00	53,53
11,11	145729	43003 G	626,32	583,43	20,16	200,00	63,09
23,81	145844	43303 AG	558,00	536,39	29,18	176,00	60,47
31,75	145866	43329 AG	563,00	530,00	36,86	176,00	53,15
25,40	145882	43929 G	603,83	583,04	23,60	210,00	57,95
31,75	145883	43329 AG	563,00	530,00	36,86	176,00	58,15
12,70	145927	43562 G	611,14	581,58	19,22	210,00	59,22
31,75	145945	43329 AG	563,00	530,00	36,86	176,00	58,15
28,58	146100	43806 G	525,00	555,80	15,98	160,00	59,45
31,75	146110	43329 AG	563,00	530,00	36,86	176,00	58,15
31,75	146133	43329 AG	563,00	530,00	36,86	176,00	58,15
30,16	146147	43360 AG	551,30	522,30	36,70	172,00	55,84
31,75	146148	43329 AG	563,00	530,00	36,86	176,00	58,15

## Critical Superficial

DESCRIPCIÓN Description	OF	CHILE 1910/1911-1
1018 RED. ESTIRADO 15,38 (5/8")	145417	2
1018 RED. ESTIRADO 22,23 (7/8")	145485	2
1018 RED. ESTIRADO 15,88 (5/8")	145601	2
1018 RED. ESTIRADO 31,75 (1 1/4")	145695	2
1018 RED. ESTIRADO 15,88 (5/8")	145886	2
1018 RED. ESTIRADO 11,11 (7/16")	145929	2
1018 RED. ESTIRADO 23,21 (1 5/16")	145957	2
1018 RED. ESTIRADO 31,75 (1 1/4")	145966	2
1018 RED. ESTIRADO 25,40 (1")	145982	2
1018 RED. ESTIRADO 31,75 (1 1/4")	145985	2
1018 RED. ESTIRADO 12,70 (1/2")	145997	2
1018 RED. ESTIRADO 31,75 (1 1/4")	145995	2
1018 RED. ESTIRADO 28,58 (1 1/8")	146109	2
1018 RED. ESTIRADO 31,75 (1 1/4")	146110	2
1018 RED. ESTIRADO 31,75 (1 1/4")	146133	2
1018 RED. ESTIRADO 30,16 (1 5/16")	146147	2
1018 RED. ESTIRADO 31,75 (1 1/4")	146148	2



RAMA Y LUPERO, 2  
48400 USAO-MIRAVALLES DE LA CUA (S. L. A. N.)  
Tlf: 01-5240211  
Fax: 01-5240128  
Email: calibrados@calibrados.com  
www.calibrados.com

## CERTIFICADO DE CALIDAD/QUALITY REPORT

De acuerdo a / According to:

EN 10204/DIN 50149

3.1

CERTIFICATE NO. / CERTIFICATE NR.: 54954

ALBARAN 54954

Delivery Note No.

CLIENTE LES ACIERES TRANSSEC (1997) LTDA  
GUATEMALA

Norma: EN 10277

Product: Cables de acero, Cables de acero de alta resistencia.

Norm:

Bright steel products. Technical delivery conditions.

Observaciones: CABLES DE ACERO ENTREGADOS EN FORMA DE ALAMBROS

DEPARTAMENTO DE CALIDAD: Certifica que el producto cumple con las especificaciones.  
QUALITY DEPARTMENT: Certify that the product fulfills the order specifications.

Fecha/Fine: 22/01/2019

Director Ejecutivo/Director  
Director of Quality

